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ABSTRACT

Three different approaches to the problem of linking educational knowledge producers and knowledge users are studied in this paper. First, data are reported describing the knowledge generation and knowledge communication behavior of twelve successful innovators. Second, characteristics of twelve programs, conceived to train persons as change and/or linkage agents, are described in detail and then critiqued. And third, a ten-step dissemination methodology, designed to meet needs through the dissemination of products, is described. The paper summarizes what one might do--upon conceiving of a new practice, product, or idea--to determine the worth of the innovation and then to determine how best to inform others of its existence. (Author)

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LINKING KNOWLEDGE PRODUCERS AND KNOWLEDGE USERS

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LINKING KNOWLEDGE PRODUCERS AND KNOWLEDGE USERS

ORIENTATION

What might one do---upon conceiving a new practice, product, or idea---to determine the worth of an innovation and then to determine how best to inform others of its existence? Ideally, such an innovator might experimentally validate the new both personally and via independent replication. Armed with these data, the innovator might then draw upon empirically-validated "givens" pertaining to the diffusion of innovations to designated audiences for the purpose of designing and expediting appropriate strategies and tactics. Persons displaying these behaviors most likely have successfully modified some aspect of professional practice one or more times in their careers.

Realistically, few innovators seem to engage in such enterprise. Most do not subject innovations to independent experimental validation. Even fewer contemplate strategies and tactics likely to impact upon intended target audiences or solicit advice from communication specialists. One pronounced consequence of such reality is that most innovators fail to modify professional practice.

A recently completed study of innovators who have become well-known as a consequence of producing and communicating knowledge which influenced professional practice substantiated the need for improving upon educational knowledge linking know-how. It is the purpose of this paper to accomplish three tasks: first, to report salient information from the "innovators study;" second, to describe eleven programs aspiring to meet the above-mentioned need by matriculating persons trained to link knowledge producers and knowledge users; and third, to offer a unique linkage methodology, designed to meet needs through the dissemination of products, which could be incorporated within most existing linking agent training programs.

PART ONE: Analyses of Successful Change Agents' "Modus Operandi"

What about innovators who have become well-known as a consequence of successfully communicating knowledge which influenced professional practice? Does their enterprise reflect the ideal described above, or does it reflect the reality suggested? No research could be uncovered at the time this study was conceived which yielded insight into the "modus operandi" of successful innovators. However, analyses of data acquisition strategies and tactics routinely adhered to across the involved disciplines suggested validation enterprise was more sophisticated than diffusion enterprise. As a consequence of these analyses, the researcher hypothesized that successful innovative persons' enterprise reflects the ideal with regard to establishing the worth of an innovation and reflects reality with regard to informing others of its existence.

The overarching purpose of this investigation was to obtain demographic data pertaining to the knowledge generation and knowledge communication enterprise of selected well-known persons who have impacted upon the professional practice of others. Secondarily, analyses of four aspects of this enterprise---namely, study patterns employed, target audience selection, communication strategies and tactics utilized, and impact upon primary and secondary targeted audiences---were conducted to ascertain how the enterprise of the well-known persons was similar and different. Finally, the collective enterprise of the well-known persons as studied to note relationships between the enterprise and its subsequent impact upon targeted audiences.

A composite portrait of the persons studied would assume these dimensions: first, the person uses quasi-experimental designs and survey research methodologies to obtain data; second, the person selects peer groups as their

primary target audience; third, the person relies upon impersonal awareness building strategies and tactics (especially technical paper publication and presentation) to communicate new know-how; and fourth, the person has been able to exert considerable influence upon the nature and direction of professional discussion and practice. The first three dimensions typify the behavior of many, many persons who generate and attempt to communicate knowledge. The vast majority of these persons are set apart from the composite portrait by the fourth dimension; that is, most aren't influential.

What accounts for differences between the composite portrait and the multitude? Ideally, specific unique behavior patterns described by the twelve can be identified and related to their professional success. Realistically, no such unique behavior patterns were discerned. The twelve are probably more like than unlike their professional peer groups.

Factors distinguishing the twelve persons selected for study from the multitude were not uncovered in the course of this investigation. Such an outcome was not expected. Nor was the outcome setting forth how most of the group gathered data and then communicated it to designated target audiences. More sophisticated research and communication modus operandi were expected. Beliefs set forth about innovative persons' knowledge generation enterprise (i.e., the enterprise was reasonably sophisticated) were not confirmed as an outcome of this investigation; beliefs about knowledge communication enterprise (i.e., the enterprise was unsophisticated) were confirmed.

These data confirmed three of eleven operational problems of educational dissemination recognized by a federal task force called the Dissemination Analysis Group. The DAG recommended that action needed to be taken on problems like the following:

1. Present strategies and methods for dissemination are not likely

to achieve high impact.

2. Few mechanisms exist for sharing among peers, and between different groups of educational specialists.

3. Evaluation information for judging among relevant alternatives is insufficient.

The DAG believed known solutions already exist for the first two problems. Finding personnel, resources, and political power to implement the solutions, unfortunately, is a complicated matter. The third problem is much more difficult to tackle, say DAG members, because it is still in a conceptual stage. Much more research and development work is called for in order to meaningfully tackle this problem.

PART TWO: Descriptions of Educational Linkage Agent Training Programs

Paul Mort of Columbia University probably contributed as much to the evolving educational knowledge diffusion/utilization research tradition as anyone up to the 1960s. His enterprise contributed to the identification of influential variables, to the development of a variety of measurement instruments, and, to the implementation of a variety of survey research designs, all intended to yield a clearer picture of the process of change in the nation's schools. Of especial interest to the researcher is Mort's seeming lack of awareness of or lack of interest in either the problem of linkage or the need for training linking agents.

None of Mort's contemporaries expressed much concern either, for not until the middle and late 1960s were either of these concerns directly addressed. Indiana University's National Institute for the Study of Educational Change, founded by Egon Guba and David Clark, were among the first to focus upon these problems. One of NISEC's three major objectives was "... to develop and test

definitions for emergent linking or middlemen roles and to conceptualize appropriate training experiences and curricula for these roles." Such a training program was institutionalized at Indiana University in 1971.

A comprehensive scan of the educational research literature yielded information about eleven programs, designed to train educational linkage agents, which have evolved since the middle 1960s. Six of the programs evolved within university settings, four within USOE initiated regional educational laboratories, and one within a state education agency context. The title of each program, principle persons involved in each, program aspirations, and relevant program commentary are reported below.

TITLE The Specialist in Educational Knowledge Diffusion and Utilization (University of Massachusetts, Amherst)

PRINCIPAL PERSONS INVOLVED W.C. Wolf, Jr.

PROGRAM ASPIRATION

The overarching purpose of the program initially was to train persons for one of three roles within the field of education; that is, as curriculum and instruction research specialists, as evaluation specialists, and as research diffusion specialists. After several years of operation, elements of each role were pooled into a core experience upon which students opted to add one or more of the specialties. The pooled program featured interdisciplinary study of diffusion/utilization matters, it called for in-depth study of a selected aspect of the topic, and it provided opportunities for formal and informal internships in agencies doing diffusion/utilization work.

COMMENTARY

The pooled program directly involved faculty representing education, psychology, sociology, anthropology, and business, and, peripherally involved faculty representing statistics, philosophy and labor-management relations. Two research methods courses comprised a core requirement for all SEKDU students. Student then elected one or more of the three specialist concentrations, each involving up to fifteen additional semester hours of academic and field work. Student programs were tailor-made on the basis of prior academic and work experience.

Extensive evaluation work related to the program was completed between 1966-69; some evaluation and student follow-up work continued between 1969-72; and, some follow-up work has continued to the present time. Feedback suggested

many aspects of the program were on target. Perhaps the most noteworthy limitation of SEKDU enterprise was not anticipated. That is, students were so well trained in research methodology, that many obtained positions teaching or directing research rather than positions pertaining to diffusion/utilization work. This limitation has been effectively resolved.

TITLE Program I: The Specialist in Continuing Education (Cooperative Educational Research Laboratory, Inc.)

PRINCIPAL PERSONS INVOLVED Albert L. Furbay and Roy Lewicki

PROGRAM ASPIRATION

CERLI staff aspired to develop a new personnel role, the Specialist in Continuing Education (SCE), and to institutionalize this role within various educational systems. The end product of their developmental effort was to be a training system tailored to the needs of prospective educational extension agents.

COMMENTARY

The SCE training system consisted of seven elements of know-how believed to relate significantly to successful institutional self-renewal. Instruction was organized around the following topics: instructional objectives, feedback data, self-confrontation, knowledge utilization, self-reinforcement, small group support, and organizational institutionalization.

Instruction in these areas was designed to build SCE skills: for conducting an in-service "self-confrontation process;' for working with small groups and with organizations; for understanding group interaction processes and techniques; and, for presenting oneself as a strong, professionally competent person who occupies a significant place in an educational system. Elaborate operating assumptions, functions, and behavioral expectations for the SCE role were set forth.

Logistics involved in expediting the training system remain unclear, as CERLI discontinued program operations before a systematic field test of the SCE role could be arranged. Conceptual work ceased during 1970.

TITLE Training for Change Agents (Center for Research on Utilization of Scientific Knowledge)

PRINCIPAL PERSONS INVOLVED Ron Havelock, Charles Jung, Henry M. Brickell, Tom Clemens, and Ronald Lippitt.

PROGRAM ASPIRATION

One outcome of the Michigan Conference on Educational Change Agent Training (CECAT), held in 1970, was an "ideal model of a fully developed training design" aimed at change agents situated in state education agencies. The training program set forth presupposed a need for at least one individual in each SEA who (1) understands the process of educational innovation through effective and collaborative utilization of resources, and (2) is able to transfer this understanding to others. This model, which was conceptualized for a particular type of role, illustrated the framework discussed by conferees for the design of programs to train change agents in the skills of helping and of resource utilization.

COMMENTARY

A successful graduate of this program should know how to do the following:

1. build helping relationships
2. diagnose client needs
3. acquire relevant resources
4. assemble and choose from among alternative solutions to a problem
5. gain acceptance for innovations among targeted audience
6. build self-renewal capability.

In addition, a graduate should be able to impart the above six skills to others and be able to self-renew himself/herself in these skills areas; this person should become the SEA spokesperson for planned change interprise; and this person should be able to develop evaluative criteria and to design evaluations.

The training program envisioned to produce change agents capable of carrying out such tasks covers an entire year's time. A two month planning phase, three workshops requiring a total of ten days of direct instruction, in-between planning activities, and two intensive on-the-job experiences made up the program. An array of instructional activities---including lectures, large and small group discussion, question and answer periods, skill building opportunities, written exercises, and selected readings---were suggested to expedite workshop and internship goals.

Since this is a hypothetical change agent training program, no field test information is available.

TITLE The Diffusion and Adoption Specialist (Division of Instructional Systems Technology, Indiana University)

PRINCIPAL PERSONS INVOLVED Harbans S. Bhola, Alice Jwaideh, and James Knowlton

PROGRAM ASPIRATION

The Diffusion and Adoption Specialist Program was initiated in mid-1971 for the purpose of training educational change makers capable of functioning as

"diffusionists, disseminators, and/or intelligent adopters." The program's two basic concerns are: to help persons understand how to diffuse new instructional materials, educational practices, and innovative organizational patterns; and, to help persons understand how to enable schools and educational systems to adopt such innovations.

COMMENTARY

The D and A Specialist Program was designed to complement student interest in such areas as instructional development, curriculum, social studies education, evaluation and research, etc. It was not intended as an exclusive academic specialization. Four core area courses plus a fifth "diversifier" course constitute the academic heart of the undertaking.

These courses probe into the technological, sociological, psychological, and political aspects of the diffusion and adoption process. Educational applications are highlighted throughout.

The program originators have not made available systematic program evaluations yet.

TITLE Research Utilizing Problem Solving (The Northwest Regional Educational Laboratory)

PRINCIPAL PERSONS INVOLVED Charles Jung, Ruth Emory and Rene Pino, based upon work initiated by Goodwin Watson

PROGRAM ASPIRATION

The overarching purpose of RUPS was to increase school personnel's skills for identifying and solving problems. RUPS evolved as an instructional program based upon a five-step method of problem solving: (1) identify the problem; (2) diagnose the problem situation; (3) consider alternate actions; (4) try out a plan of action; and (5) adopt the plan.

COMMENTARY

RUPS is now a thirty hour instructional system consisting of varied instructional materials and step-by-step instructional procedures. Organized into sixteen units, instruction can be conducted as an inservice workshop or preservice course. In building skills, participants solve a typical problem of a classroom teacher.

Instructors must be "certified" prior to offering RUPS training. Up to thirty persons can participate in a RUPS session.

RUPS was initiated through the Cooperative Project for Educational Development at the University of Michigan, utilizing USOE funds, and was further developed by NREL staff. Nearly all of the revision by NREL staff was completed by 1971.

TITLE The Educational Information Consultant Training Package (Far West Laboratory for Educational Research and Development)

PRINCIPAL PERSONS INVOLVED Bela Banathy and Wayne Rosenoff

PROGRAM ASPIRATION

The primary objective of this instructional system was to develop the skills, knowledge, and attitudes required to function in the EIC role. Specifically, training is based on a model which covers five major processes delineated for the role: negotiation, retrieval, transformation, communication, and evaluation.

The program was designed to train persons who can analyze and define an educator client's information problem; plan and execute an information search; screen, sort, and package the information; communicate it to the client; and evaluate how effective the service has been.

COMMENTARY

Seven instructional modules, ranging in length from 4.5 to 9 instructional hours, comprised the basic training package. The package was augmented by an introduction module (describing the emerging role and functional context of the EIC) and a simulation module (providing an orientation to the skills involved in each process). Three different versions of this package---a course form, an institute form, and a learning team form---were prepared to accomodate a variety of audiences in various environments.

Two field tests were conducted to ascertain effects of the training package upon intended target audiences. Evidence obtained suggested the product surpassed high quality control standards. Furthermore, the package stimulated considerable interest among information network personnel and university instructors in schools of education and library science across the nation.

A report summarizing the EIC role was submitted to N.I.E.'s Task Force on Dissemination on December 31, 1972.

TITLE The Pilot State Dissemination Program Field Agent

PRINCIPAL PERSONS INVOLVED Charles H. Koelling and staff along with Sam D. Sieber, Karen Seashore Louis, and Loya Metzger.

PROGRAM ASPIRATION

Persons who complete the training program will be able to effectively collaborate with school personnel in a problem solving or innovating process. These field agents will be called into school environments to help solve a problem or to help school personnel install an innovation.

COMMENTARY

The field agent program encompasses nine training phases:

1. relationship building
2. problem diagnosis
3. information retrieval
4. selecting among alternative solutions
5. building support for implementation
6. sustaining impetus for implementation
7. stabilizing the innovation
8. building self-renewal capability
9. detachment from clients upon completing tasks

Since field agent training was offered in conjunction with project director training and reference/retrieval staff training, specific modus operandi intended for only the field agents could not be discerned from project records. Three training sessions were conducted for all parties: the first involved nearly 51 hours of contact; the second nearly 12 hours; and the third nearly 49 hours (21.5 for field agents only) of contact.

The sessions were characterized by formality, giving an impression that a substantial body of information needed to be transferred to the participants. Considerable client need data were gathered prior to each session, and, each session was systematically evaluated. The evaluation information obtained for field agents suggested they "... came away from training with the least direct, specific help related to their day-to-day activities."

A two volume report, published in 1972, amplifies project work completed.

TITLE Educational Change Agents (University of California at Riverside)

PRINCIPAL PERSONS INVOLVED Howard S. Adelman

PROGRAM ASPIRATION

The program, offered as a master's degree concentration, aspired to train persons to assume change agent roles in school districts, particularly with reference to providing better educational opportunities for pupils with learning and behavior problems. Of particular interest to the trainers was the need to train professionals who are responsible for and capable of the diffusion of special education "mainstreaming" innovations.

COMMENTARY

Each trainee was involved in classwork at the university 6 - 8 hours each week, in practicum situations approximately 15 hours per week (with at least 10 of these hours actually in school classrooms), and in supervisory "feedback" sessions 2 - 3 hours per week. All trainees convened with the project staff two hours per week as well.

Focal points of this instruction are:

1. Tools needed for learning and performing in the program
2. Program rationale
3. Curricular planning
4. Administrative planning
5. Evaluational planning
6. Instructional planning
7. Program implementation
8. Program evaluation
9. Tools needed to help advance the field

Participants who complete these instructional tasks, hopefully, will be able to plan, implement, and evaluate systematically: (1) a regular classroom instructional program which will improve the educational opportunities both of pupils in the general population and pupils with learning/behavior problems; and (2) a program which results in the widespread diffusion of such a classroom program. The project final report, submitted in 1973, suggested a procedure for ascertaining the impact of this program. Interim evaluation information reported doesn't really address the above-stated program outcomes.

TITLE Pilot Training Program for Innovation Process Generalists (University of Michigan)

PRINCIPAL PERSONS INVOLVED Ron Havelock, Garry Walz and R. Bruce Shaw

PROGRAM ASPIRATION

The Educational Change Agents, Modules and Materials (EDCAMM) enterprise was initiated to develop a training program which could be used in two ways: (1) in a workshop setting to provide participants with skills, knowledge and experiences which would enhance and support their ability to understand the change process; and (2) by the participants after attending the workshop given their own resources and the resources of the system they are working with to implement a change. A consequence of EDCAMM enterprise, hopefully, would be the institutionalization of an Innovation Process Generalist role.

COMMENTARY

Ron Havelock's The Change Agent's Guide to Innovation in Education served as a primary reference for selecting and organizing training program content. The program consists of three eight hour training packages designed to provide trainees with some of the knowledge and skills necessary to function effectively as an educational change agent.

Change is described in the training packages as a problem solving process with particular focus on building collaborative relationships between change agents and clients and gaining acceptance of planned change. Training module one focuses upon six stages of a problem-solving process (drawn from Havelock's guide) and assists trainees in identifying factors and forces which should be

taken into consideration at each stage. Module two highlights knowledge and skills relevant to building and sustaining a relationship with a client system. And module three addresses variables of importance related to gaining acceptance for an innovation within an educational system. An intensive three and one half day sequence of activities is recommended as the most effective training format. Trainee group size may vary from fifteen to one hundred.

The three modules were pilot tested and then field tested in four different sites between January and March, 1973. Trainees tested were primarily graduate students enrolled at the University of Michigan. These field tests resulted in several substantial revisions and many minor revisions of the material.

TITLE Educational Extension Services Personnel (Institute for Communication Research of Stanford University and Systems Development Corporation)

PRINCIPAL PERSONS INVOLVED Colin Mick, Matilda Paisley, William Paisley and John E. Coulson

PROGRAM ASPIRATION

Dissemination administrators, retrieval specialists, and field agents were groups targeted for an intensive in-service training program by Mick and his staff. The original staff charge was twofold:

1. To configure effective training models for active dissemination projects in states chosen for developmental or demonstration grants by the federal government;

2. To compile training materials for dissemination personnel working in such projects.

Only field agent training concerns are amplified in this synopsis.

Program planners believed the primary role of the field agent is to provide linkage between information sources and information users.

COMMENTARY

A task analysis of the field agent role indicated a need for the following skills and knowledge:

1. Publicity activities
2. Identification of clients' information requirements
3. Identification and selection of information for clients
4. Delivery of search results and development of plans for future contacts
5. Follow-up activities
6. Office procedures
7. Office materials and equipment

The first five pertain to the linkage role to be assumed by the field agent; the

last two to management of the agent's field-based office.

Three blocks of modules were designed to meet the training needs of the targeted groups. Field agent training is concentrated within the first block (background information) and the third block (contact, negotiation, and retrieval information). The three blocks of modules are compartmentalized into 25 discrete modules, each intended to occupy a particular group of trainees for durations of one to four hours. In addition to the 25 modules, less-structured sessions begin and end the sequence.

Training sessions involved lectures, demonstrations, discussion, role playing, reading, and simulations designed to facilitate skills practice. Trainee feedback was solicited in order to evaluate the modules and to modify them as indicated. Details are offered in the project's 1973 final report.

TITLE The Research for Better Schools Field Consultant

PRINCIPAL PERSONS INVOLVED Carolyn Clark

PROGRAM ASPIRATION

Field consultants were trained to perform a linkage role between knowledge producers and knowledge users. Trainees were instructed to expedite two tasks:

1. Aid teachers, principals, and central office personnel in the adoption, installation, and diffusion of RBS curriculum and management training products designed to individualize and personalize instruction;

2. Study the phenomena of adoption, installation, and diffusion of planned change through products.

COMMENTARY

The training program consisted of two instructional phases which were based upon certain pre-determined critical competencies. The first phase drew upon material prepared by Northwest Regional Educational Laboratory staff, by RBS staff, and by Dr. Glen Heathers. Topics highlighted include:

1. Individualizing instruction, curricula, and instructional organization
2. Techniques of interaction dynamics and problem solving
3. Change theory
4. School system management
5. Educational project management
6. Re-training and continuous training in education
7. Program evaluation

The second phase was primarily experiential. Trainees were organized into small groups and placed in RBS network school sites where they functioned as

interns. While on site the trainees studied and practiced how to do the following tasks:

1. Train others in the rationale for and the use of RBS resources
2. Diagnose problems of implementation and apply appropriate resources to a solution of the problems
3. Communicate effectively with the client
4. Establish and maintain a working relationship with key members of the client system
5. Accurately assess and report the degree of implementation of innovations realized.

Both phases of the instruction were systematically evaluated between 1971 and 1973. Interim data indicated the field consultant was well-received and functioning according to plan.

These training programs varied considerably in terms of trainee selection, program focus, duration, and validation of trainee performance. For example: nearly anyone is able to enroll in some of the programs, whereas other programs established rigorous academic standards for admission; some programs opted to build relatively few linkage skills, whereas others aspired to build comprehensive skills related to linkage and other matters; required training time varied from a few days of directed study to several years of directed study; and, whereas all of the programs provided opportunities for trainees to try out their know-how in simulated situations, few provided supervised internship options. Given this program diversity, it is not unreasonable to believe the capacity of program graduates to meet clients' needs must be just as diverse.

Once a person completes the prescribed training and assumes linking agent responsibilities the person is on his or her own to operationalize and then expedite the responsibilities. None of the linking agent training program staffs commands the resources required to systematically follow-up and provide on-the-job assistance for program graduates. Linking agents cannot expect to encounter many other persons who are aware of the technology transfer literature in the course of their daily business either. Great variance in on-the-job performance

can be expected under these conditions.

Consequences of such linking agent training modus operandi are fairly predictable. That is:

1. Program graduates may or may not be able to function as linking agents.
2. Strategies and tactics employed by successful program graduates will vary considerably, suggesting the performance may be an art form as much as a trainable skill.
3. Individuals are likely to experience both success and failure as linking agents, but not be able to pinpoint reasons for these diverse outcomes.

These are recognized consequences of apprenticeship training programs, which is what all eleven programs seem to be. None of the programs is systematically rooted in scientifically derived data, none of the programs is functionally standardized, and none of the programs can meaningfully guarantee the performance of graduates as linking agents.

At best, some of these programs may be able to consistently matriculate persons capable of successfully expediting linkage tasks more often than not. Which is not an insignificant accomplishment given the fact that these programs have been evolving for less than a decade.

PART THREE: A Unique Linkage Methodology

William A. Welsh has evolved a dissemination methodology which may resolve some of the problems faced by trainers of linking agents. His methodology, which is designed to meet needs through the dissemination of products (or through the transfer of technology), is systematized, standardized, and operationalized.

The term, systematized, indicates there is a logical reason for the inclusion of each step in the methodology . The term, standardized, means persons

using the methodology can apply the same set of rules and procedures. And the term, operationalized, means the rules and procedures are stated with sufficient specificity to facilitate uniform comprehension.

Welsh based his dissemination methodology upon the theoretical contributions of Thomas E. Hutchinson and W. C. Wolf, Jr., both of the University of Massachusetts at Amherst. Hutchinson designed a tool, called metamethodology, to build specific methodologies. Wolf set forth a conceptual framework for tackling practical problems of dissemination.

The methodology consists of ten primary steps, and numerous sub-steps. The primary steps focus upon:

1. planning
2. product modification
3. identifying appropriate diffusion strategies/tactics
4. conducting needs assessments
5. focusing upon specific target audiences
6. identifying early adopters and opinion leaders within targeted audiences
7. setting forth procedures for contacting early adopters and opinion leaders
8. utilizing early adopters and opinion leaders to sustain diffusion plans
9. systematically evaluating effects of a product upon targeted settings
10. systematically evaluating diffusion strategies/tactics in relation to product impact upon targeted audiences.

Steps four and nine pertain to conditions for change; step two pertains to characteristics of the innovation; steps four, five, six, and seven pertain to characteristics of the target audience, and steps three, seven, and eight pertain to linkage systems. Only characteristics of the innovator are not addressed by the methodology.

The dissemination methodology has only been partially field tested to date. Further field testing is essential before the tool can effectively meet needs through the dissemination of products.

A tool such as this one can conceivably be incorporated within each of the linking agent training programs described in the previous section. There are a number of coherent reasons for doing so. First, such a methodology can be applied with relative ease and consistency by most persons. Second, problems encountered during the application of the dissemination methodology can easily be recognized, isolated, and remedied. And third, a dissemination methodology lends itself to systematic evaluation and independent replication work (each application of the methodology, for example, constitutes a field test of the tool).

Welsh's dissemination methodology offers promise as a potentially powerful tool designed to link knowledge producers and knowledge users. His methodology also introduces the prospect of conducting systematic evaluation and independent replication enterprise within the context of educational knowledge diffusion and utilization. Both prospects bode well for the future.

SUMMARY

How to link educational knowledge producers and knowledge users continues as one of education's most persistent and thorny problems. Data describing the knowledge generation and knowledge communication behavior of successful innovators, reported by Wolf, confirmed three of eleven operational problems of educational dissemination recognized by H.E.W.'s Dissemination Analysis Group. The linkage problem continues because unsophisticated knowledge generation and knowledge communication modus operandi are widely utilized by educators.

A number of programs have been conceptualized and initiated within the past decade and one half which aspire to train persons to link knowledge producers and users. Characteristics of nearly a dozen of these programs were described in

detail and then critiqued. While these programs are a positive sign that the linkage problem is being addressed, consequences of the linking agent training are variable at best. None of the programs is systematically rooted in scientifically derived data, none of the programs is functionally standardized, and none of the programs can meaningfully guarantee the performance of graduates as linking agents.

A ten step dissemination methodology was introduced which was designed to meet needs through the dissemination of products. It is a tool that can stand alone or that can be incorporated within other linking agent training programs. The methodology may resolve some of the problems confronted by trainers of linking agents. For example, it introduces the possibility of consistent application of know-how; it can be easily modified and improved; it can be systematically evaluated; and, it can be independently replicated. In essence, the methodology systematizes, standardizes, and operationalizes the linkage problem.

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ADDENDUM

TITLE Leadership for Education in Appalachia Program (University of Tennessee)

PRINCIPAL PERSONS INVOLVED Charles M. Achilles and Larry W. Hughes

PROGRAM ASPIRATION

The Leadership for Education in Appalachia Program was initiated to develop talented young persons as administrative leaders for the region's educational agencies. The program, by combining cost-efficient pre-service and in-service training features in a unique way, aimed to acquaint trainees with change theory in the context of educational practice. Persons were trained to expedite pertinent research and development work, to conceptualize and manage change enterprise, and to systematically document change consequences.

COMMENTARY

The program was initially designed to serve up to 48 persons, twenty-four being new trainees and twenty-four being paired administrators (experienced administrators selected from participating educational agencies). These persons invested two summer sessions, one academic year (three quarters), and two between-quarter internships in the program, during which time they were able to earn up to sixty quarter hours of credit.

The paired administrator concept, a program feature, made possible a wide range of training experiences, such as: full-time preservice programming for an experienced administrator; a planned internship; built-in cooperative supervision for the intern; socialization of the new administrator into an administrative role; development of a community support system for change; a framework for professional dialogue between trainee and practicing administrator; a team approach to change processes; community and school involvement in problem identification, planning and implementation of solutions; opportunities for new and practicing administrators to "individualize" their programs around local problems and to solve those real problems; planned and orderly personnel selection and training processes for local leadership; and, a continuum of training from preservice through inservice.

Trainees completing the program during the 1968-69 and 1969-70 periods were systematically studied to ascertain program effects. Evaluative data obtained indicated the program was "highly successful."